

Harvey S. Johnston

Rhodora

JOURNAL OF THE
NEW ENGLAND BOTANICAL CLUB

Conducted and published for the Club, by

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Vol. 25.

December, 1923.

No. 300.

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Boston, Mass.

300 Massachusetts Ave.



Providence, R. I.

Preston and Rounds Co.

RHODORA.—A monthly journal of botany, devoted primarily to the flora of New England. Price, \$2.00 per year, postpaid domestic and foreign; single copies (if available) 20 cents. Volumes 1-8 or single numbers from them can be supplied at somewhat advanced prices which will be furnished on application. Notes and short scientific papers, relating directly or indirectly to the plants of the northeastern states, will be gladly received and published to the extent that the limited space of the journal permits. Forms will be closed five weeks in advance of publication. Authors (of more than one page of print) will receive 25 copies of the issue in which their contributions appear. Extracted reprints, if ordered in advance, will be furnished at cost.

Address manuscripts and proofs to

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Subscriptions, advertisements, and business communications to

W. P. RICH, 300 Massachusetts Avenue, Boston, Mass.

Entered at Boston, Mass., Post Office as Second Class Mail Matter.

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NOTES ON SOME PLANTS OF THE ONTARIO AND ST. LAWRENCE BASINS, NEW YORK.

M. L. FERNALD AND K. M. WIEGAND.

DURING the latter part of August, 1923, the writers, accompanied by Professor A. J. Eames, made a botanizing trip by automobile through the eastern half of the Ontario basin of New York and along the St. Lawrence River as far as Ogdensburg. This region is classic ground in American botany and it was our hope to see growing some of the special plants which have long been known from stations in Oswego, Jefferson and St. Lawrence Counties. In this we were highly gratified, although the limited time at our disposal forced us to restrict the close botanizing to a few localities: Mud Pond, southwest of Oswego; the mouth of Salmon River, Oswego County; the sand dunes at Selkirk and near North Pond in Sandy Creek Township, Oswego County; the vicinity of Watertown, Jefferson County; the eastern shore of Chaumont Bay, Jefferson County; the mouth of French Creek, Clayton, Jefferson County; the vicinity of Morristown, St. Lawrence County; and Narrows Island in Black Lake, St. Lawrence County.

Among the plants collected were several which are interesting as indicating range-extensions or new stations for local species. In so far as these seem of sufficient importance for special record they are enumerated in the following notes.

PICEA CANADENSIS (Mill.) BSP. Limestone barrens along Chaumont River, near Depauville, Jefferson County.

Reported by Peck at various times from Essex County, with an outlying station in Washington County.

TYPHA ANGUSTIFOLIA L., var. *LONGISPICATA* Peck, N. Y. State Mus. Rep. xlvii. 162 (reprint 36) (1894). Var. *virginica* Tidestrom, RHODORA, xiii. 242 (1911). Characteristic of lake- and stream-margins wherever we went in the Ontario basin, from Cayuga Lake northward and eastward to northeastern Jefferson County.

POTAMOGETON CRISPUS L. Marly bottom overlying Silurian limestone, cove of Lake Ontario, southwest of Chaumont, Jefferson County.

P. STRICTIFOLIUS Bennett. Marly bottoms of creeks entering the St. Lawrence in Jefferson and St. Lawrence Counties. Plants excessively brittle, forming dense mats in deep water, mostly sterile and heavily loaded with winter buds; occasionally fruiting when reaching the surface.

P. VASEYI Robbins. Deadwater at mouth of Salmon River, flowing over Silurian shales and schists, Selkirk, Oswego County; muddy pool overlying Silurian rock near Ossawegatchee River, Ossawegatchee, St. Lawrence County, heavily fruiting.

POTAMOGETON FRIESII Rupr. Marly bottom overlying Silurian limestone, cove of Lake Ontario, southwest of Chaumont, Jefferson County.

NAJAS GUADALUPENSIS (Spreng.) Morong. Marly bottom overlying Silurian limestone, cove of Lake Ontario, southwest of Chaumont, Jefferson County.

Strikingly different from the common *N. flexilis* in its wiry and stiffly branching stems and rufescent coloring as well as in fruit. For discussion see Fernald, RHODORA, xxv. 108 (1923). *N. guadalupensis* was collected in 1920 by Dr. Harold St. John in Great Pond, Riverhead, town of Southampton, Suffolk County (no. 2541, distributed as *N. flexilis*, var. *robusta* Morong.).

ALISMA GEYERI Torr. Marly bottom overlying Silurian limestone, cove of Lake Ontario, southwest of Chaumont, Jefferson County.

A characteristic species of western America, from Washington to North Dakota and Saskatchewan. Collected many years ago by Asa Gray at Ogdensburg, St. Lawrence County; and in 1918 by Brother Marie-Victorin in the St. Lawrence near Longueuil and Montreal, Quebec.

PANICUM GATTINGERI Nash. Dry sterile soil overlying Silurian limestone by Lake Ontario, southwest of Chaumont, Jefferson County; dry sterile soil overlying Cambrian rock, near Crystal Lake, south of Redwood, Jefferson County; dry sterile soil over Silurian ledges, Morristown, St. Lawrence County.

P. TUCKERMANI Fernald, *RHODORA*, xxi. 112 (1919). Damp ledges of Trenton limestone, bank of Black River, Dexter, Jefferson County; alluvial thickets and damp shores, Narrows Island, Black Lake, St. Lawrence County.

Presumably of general distribution on alluvial soils in northern and central New York.

P. FLEXILE (Gattinger) Scribner. Dry sterile soil overlying Silurian limestone by Lake Ontario, southwest of Chaumont, Jefferson County; dry sterile soil over Silurian ledges, Morristown, St. Lawrence County.

P. VIRGATUM L. Sand dunes overlying Silurian shales and schists by Lake Ontario, Selkirk, Oswego County, where occur many variations from the typical loosely stoloniferous plant to the densely cespitose var. *SPISSUM* Linder, *RHODORA*, xxiv. 15 (1922).

House records,¹ as the northernmost station known to him in New York, Rensselaer in Rensselaer County.

P. AGROSTOIDES Spreng. Alluvial thickets and damp shores, Narrows Island, Black Lake, St. Lawrence County.

An unusually northern station, though not quite so far north as the northeastern limit, in Penobscot County, Maine.

ECHINOCHLOA MURICATA (Michx.) Fernald, *RHODORA*, xvii. 106 (1915). Common in swales and low grounds throughout the Ontario basin and northeastward at least to St. Lawrence County.

E. MURICATA, var. *MICROSTACHYA* Wiegand, *ibid.*, xxiii. 58 (1921). Common eastward at least to Jefferson County; forming large colonies quickly distinguished in the field as different from the typical form of the species.

ERAGROSTIS PEREGRINA Wiegand, *RHODORA*, xix. 95 (1917). As was to be expected this ruderal species was found in the railroad yard at Watertown, Jefferson County, a slight extension northward from previously known limits.

¹ House, N. Y. State Mus. Bull. no. 197: 52 (1918).

PUCCINELLIA DISTANS (L.) Parl., var. *TENUIS* (Uechtr.) Fernald & Weatherby, *RHODORA*, xviii. 12 (1916). Saline clay about the salt sheds, south of Liverpool, Syracuse, Onondaga County.

An addition to the list of semi-halophytic plants of the Onondaga region. The coarser typical form of *P. distans* has already been recorded from there (Fernald & Weatherby, l. c.).

ELYMUS ROBUSTUS Scrib. & Sm., var. *VESTITUS* Wiegand, *RHODORA*, xx. 90 (1918). Sand dunes overlying Silurian shales and schists by Lake Ontario, Selkirk, Oswego County; damp ledges of Trenton limestone, bank of Black River, Dexter, Jefferson County.

ELEOCHARIS OLIVACEA Torr. Quaking peaty margin of Mud Pond, Oswego, Oswego County.

SCIRPUS SUBTERMINALIS Torr. Quaking peaty margin of Mud Pond, Oswego, Oswego County.

S. HETEROCHAETUS Chase. Deadwater at mouth of Salmon River, flowing over Silurian shales and schists, Selkirk, Oswego County.

Beautifully distinct and forming extensive colonies at the margin of the deadwater, where it is associated with *S. fluviatilis* (Torr.) Gray and *Typha angustifolia*, var. *longispicata* Peck.

CAREX TRISPERMA Dew., var. *BILLINGSII* Knight. Knolls in peat bog by Mud Pond, Oswego, Oswego County.

C. LONGIROSTRIS Torr. Rich woods on Silurian limestone near Natural Bridge, Limerick, Jefferson County.

JUNCUS BALTICUS Willd., var. *LITTORALIS* Engelm., forma **dissitiflorus** Engelm. in herb., caulibus 0.4–1.1 m. altis; inflorescentiis dissitifloris diffusis 0.4–1.5 dm. longis.

Culms 0.4–1.1 m. high: inflorescences remotely flowered, diffuse, 0.4–1.5 dm. long.

A very characteristic form of the American var. *littoralis* designated by Engelmann in the Gray Herbarium but apparently not published by him. The form in its most extreme development is very typical of the sands of the Great Lakes, but perfectly characteristic var. *littoralis*, with less diffuse inflorescences and somewhat approximate flowers, also occurs there; conversely, although the common plant of the Atlantic coast is typical var. *littoralis*, the forma *dissitiflorus* is occasionally collected near the sea. The following are representative of forma *dissitiflorus*.

MAGDALEN ISLANDS: swale, Brion Island, August 10, 1914, *St. John*, no. 1820. NOVA SCOTIA: sphagnous hillside, Truro, July 18, 1920, *Bissell & Linder*, no. 20,648. ONTARIO: Wellington, September 4, 1902, *Fowler*. NEW YORK: shore of L. Ontario, Sackett's Harbor, *A. Gray* (TYPE in Gray Herb.); sand dunes north of Selkirk, August 31, 1906, *Rowlee*, August 23, 1922, *Fernald, Wiegand & Eames*, no. 14,209; Long Pond on shore of L. Ontario, Monroe Co., July 3, 1917. *House*, no. 13. PENNSYLVANIA: dunes and marshes, Waldameer, Erie, June 17, 1910, *Pease*, no. 12,979. MICHIGAN: low damp ground, Benton Harbor, September 18, 1910, July 4, 1911, *Lansing*, nos. 2868, 3244; shore of Crystal L., near Frankfort, June 22, 1888, *Wheeler*; swamp, Fayette, August 20, 1901, *Barber*; wet sandy shore of Burt L., Cheboygan Co., July 11, 1917, *Ehlers*, no. 462. INDIANA: slough-borders, Millers, June 24, 1898, *Umbach*; boggy ground, Pine, June 17, 1908, *Lansing*, no. 2723, August 20, 1920, *Peattie*. WISCONSIN: sandy beach of L. Michigan, near Milwaukee, August, 1866, *Lapham* in Engelm. Herb. Junc. Bor.-Am. Norm. no. 2. ILLINOIS: wet sand beaches of L. Michigan, Waukegan, August 16, 1906, *Gleason & Shobe*, no. 315; Lake Shore, Chicago, *Vasey et al.*

JUNCUS PELOCARPUS Meyer. Quaking peaty margin of Mud Pond, Oswego, Oswego County.

MAIANTHEMUM CANADENSE Desv., var. *INTERIUS* Fernald, *RHODORA*, xvi. 211 (1914). Dry wooded sand dunes overlying Silurian rock by Lake Ontario, northwest corner of Sandy Creek Township, Oswego County.

The western extreme of the species, not previously known to occur east of Illinois, Wisconsin and Lake Nipigon, Ontario.

SALIX AMYGDALOIDES Anderss. General along water courses north-eastward into St. Lawrence County.

Peck has recorded¹ "a single tree" at Lake Bonaparte in Lewis County as at the northern limit in the state, but the species is common on Black Lake in St. Lawrence County.

SALIX SYRTICOLA Fernald. *S. adenophylla* Schneider, Jour. Arn. Arb. i. 158 (1920) in part, perhaps Hook. Dry sand dunes overlying Silurian limestone by Lake Ontario, northwest corner of Sandy Creek Township, and sand dunes at Selkirk, Oswego County.

The typical shrub of the Great Lakes, apparently not heretofore recorded from Lake Ontario.

BETULA PAPYRIFERA Marsh., forma *coriacea*, n. f., foliis valde coriaceis lucidis.

¹ Peck, N. Y. State Mus. Bull. no. 94: 42 (1905).

Leaves strongly leathery, lustrous.—NEW YORK: sand dunes overlying Silurian shales and schists by Lake Ontario, Selkirk, August 23, 1922, *Fernald, Wiegand & Eames*, no. 14,244 (TYPE in Gray Herb.).

Very characteristic in its heavy and thick foliage, but in leaf-outline, pubescence and fruiting aments clearly belonging with *B. papyrifera*.

POLYGONUM RAMOSISSIMUM Michx. Wet Silurian limestone ledges by cove of Lake Ontario, southwest of Chaumont, Jefferson County. The typical western plant with yellowish calyx-lobes.

P. DOUGLASII Greene. On dry sandstone or gneiss ledges, Narrows Island, Black Lake, St. Lawrence County.

P. ROBUSTIUS (Small) Fernald, *RHODORA*, xxiii. 147 (1921). Peaty margin of Black Creek, Alexandria, Jefferson County; filling a small brook in a wet swale near the southern end of Black Lake, St. Lawrence County.

P. SETACEUM Baldwin. Along brooks in swampy woods and thickets overlying Silurian sandstone, Mud Pond, Oswego, Oswego County.

A species chiefly of the southern coastal plain, probably more general northward than has been supposed: discovered for the first time northeast of the Carolinas by Bicknell, on Nantucket, in 1907;¹ found by Dr. Witmer Stone² on Cape May, New Jersey, in 1909; by Fernald & Long on Cape Cod, Massachusetts, in 1918; and by St. John at Sweezy Pond, Southampton, Long Island, in 1920.

CAKILE EDENTULA (Bigel.) Hook., var. *LACUSTRIS* Fernald, *RHODORA*, xxiv. 23 (1922). Beach and frontal sand dunes by Lake Ontario, Selkirk, Oswego County.

SEDUM TELEPHIODES Michx. Dry ledges of Cambrian sandstone, Fisher's Landing, east of Clayton, Jefferson County.

GEUM CANADENSE Jacq., var. *CAMPORUM* (Rydb.) Fernald & Weatherby, *RHODORA*, xxiv. 49 (1922). Dry sand dunes overlying Silurian limestone by Lake Ontario, northwest corner of Sandy Creek Township, Oswego County.

RUBUS GLANDICAULIS Blanchard. Abundant in damp thicket back of sand dunes overlying Silurian limestone by Lake Ontario, northwest corner of Sandy Creek Township, Oswego County.

¹ Bicknell, Bull. Torr. Bot. Cl. xxxvi. 454 (1909).

² Stone, Pl. So. N. J. 424 (1912).

R. FRONDOSUS Bigel. Back of sand dunes overlying Silurian shales and schists by Lake Ontario, Selkirk, Oswego County.

R. PERGRATUS Blanchard. Low sandy pasture overlying Silurian limestone, northeast corner of Sandy Creek Township, Oswego County; thicket by Chaumont River, Depauville, Jefferson County.

R. RECURVANS Blanchard. Sandy thickets and dry open woods, Constantia and Phoenix, Oswego County.

R. ELEGANTULUS Blanchard. Border of open swale over Silurian sandstone, Morse, Hastings, Oswego County.

R. VERMONTANUS Blanchard. Dry sterile bank between Mud Lake and Crystal Lake, south of Redwood, Jefferson County.

R. JACENS Blanchard. Sandy thickets overlying Silurian sandstone, two miles west of Constantia, Oswego County.

R. HISPIDUS L., var. *MAJOR* Blanchard. Damp thickets in sand dunes overlying Silurian limestone by Lake Ontario, northwest corner of Sandy Creek Township, Oswego County.

PRUNUS PUMILA L. Shrubs 1–2 m. high, on sand dunes overlying Silurian shales and schists by Lake Ontario, Selkirk, Oswego County. For discussion see Fernald, *RHODORA*, xxv. 72 (1923). Recorded from the same area, "Pulaski, Oswego Co." in Report of the State Botanist for 1909 (p. 35).

BAPTISIA TINCTORIA (L.) R. Br. Dry thickets south of sand dunes overlying Silurian shales and schists by Lake Ontario, Selkirk, Oswego County.

POLYGALA SANGUINEA L. In 1893, Peck noted¹ the bright color of the flowers of plants of the interior (Albany County) as contrasted with the duller coloring of the Long Island plant. The same brilliant coloring was conspicuous in the two colonies seen by us in northern Oswego County.

CALLITRICHE HERMAPHRODITICA L. Cent. I. Pl. 31 (Feb., 1755). *C. autumnalis* L. Fl. Suec. ed. 2: 2 (Oct., 1755). For discussion of nomenclature see Schinz & Thellung, Vierteljahrs. Naturforsch. Gesell. Zurich, liii. 548 (1909). Shallow cove in Guffin Bay, near Point Salubrious, Jefferson County; marly bottom, overlying Silurian rock, mouth of Chippewa Creek, Morristown, St. Lawrence County; muddy pool in sandy swale overlying Silurian rock by the St. Lawrence River, Morristown.

¹ Peck in N. Y. State Mus. Report 46: 122—reprint 42 (1893).

Apparently frequent or common in calcareous waters of the St. Lawrence system in Jefferson and St. Lawrence Counties. Paine¹ cited it as collected by Clinton at Alexandria Bay, Jefferson County and it is in the Gray Herbarium, labeled by Gray as collected at Ogdensburg, St. Lawrence County, by Clinton. Mrs. O. P. Phelps found it in a small stream at Morristown; and it extends eastward to the Ottawa and Richelieu valleys in Quebec and Lake Champlain in Vermont. In New York it seems to be rare west of Jefferson County.

ACER SACCHARINUM L. At the only two stations where specimens were collected (for locality), on Black Creek, Alexandria, Jefferson County and Black Lake, St. Lawrence County, the foliage is green beneath, almost or quite lacking the white bloom characteristic of the species.

VITIS VULPINA L., var. *syrticola*, n. var., a forma typica recedit foliis maturis subtus valde pilosis, petiolis dense pilosis.

Differing from the typical form in having the mature leaves densely pilose beneath; the petioles densely pilose. NEW YORK: sand dunes overlying Silurian shales and schists by Lake Ontario, Selkirk, Oswego County, *Fernald, Wiegand & Eames*, no. 14,388 (TYPE in Gray Herb.; duplicate in Herb. N. Y. College of Agric.). MICHIGAN: top of low sand dunes, New Buffalo, Berrien County, July 20, 1911, *O. E. Lansing*, no. 3287. INDIANA: dry woods on sand dunes, Miller's, September 4, 1911, *Sherff*.

MALVA ALCEA L. Roadside, Scriba, Oswego County.

HYPERICUM BOREALE (Britton) Bicknell. Quaking peaty margin of Mud Pond, Oswego, Oswego County.

LECHEA INTERMEDIA Leggett. Sterile ledges, Narrows Island, Black Lake, St. Lawrence County.

Collected by Mrs. Orra Parker Phelps slightly to the northeast, at Norfolk.

VIOLA AFFINIS LeConte. On rock-talus, Narrows Island, Black Lake, St. Lawrence County.

LYTHRUM ALATUM Pursh. With *Polygonum robustius* in a wet swale near the southern end of Black Lake, St. Lawrence County; appearing indigenous.

CORNUS BAILEYI Coult. & Evans. Sand dunes overlying Silurian shales and schists by Lake Ontario, Selkirk, Oswego County.

¹ Paine, P. Oneida County, 71 (1865).

Recorded by House¹ from the dunes of Jefferson County. Not very satisfactorily separable from *C. stolonifera* Michx., of which it may prove to be a variety.

SATUREJA VULGARIS (L.) Fritsch, var. **diminuta** (Simon), n. comb. *Clinopodium vulgare*, var. *diminutum* Simon, Bull. Soc. Bot. Deux-Sevres (1903) 207. *S. Clinopodium*, γ *diminuta* (Simon) Rouy, Fl. de France, xi. 337 (1909).

We have been unable to see Simon's original description, but Rouy characterizes var. *diminuta* as follows: "Plante réduite dans toutes ses parties; verticilles pauciflores." Such a plant, with foliage-leaves at most 2.3 cm. long, with the bracteal leaves barely exceeding the verticels and with the calyx shorter than in the ordinary plant (mature verticels only 1-2 cm. in diameter), is a characteristic weed of roadside-fencerows and borders of limy pastures near Watertown, Jefferson County, New York (*Fernald, Wiegand & Eames*, no. 14,431).

AGALINIS PAUPERCULA (Gray) Britton. Frequent in peaty, sandy or damp rocky ground from Oswego County to St. Lawrence County.

House records² the salt-marsh species, *A. maritima* Raf., as collected "at Mud Lake near Hannibal, Oswego County," a most singular habitat for a halophytic species for, as Rowlee clearly states in his account of the region, "Mud Lake is by no means a saline place."³ It is bordered by a peaty quagmire full of *Lycopodium inundatum* L., *Woodwardia virginica* (L.) Sm., *Eleocharis olivacea* Torr., *Scirpus subterminalis* Torr., *Drosera longifolia* L., *Utricularia gibba* L., etc., back of which is an acid bog with the ordinary plants of acid bogs. Our plant from there is very characteristic *A. paupercula*.

LONICERA GLAUDESCENS Rydb. Dry wooded sand dunes overlying Silurian rock by Lake Ontario, northwest corner of Sandy Creek Township, Oswego County.

Near if not quite the eastern limit of the species.

CAMPANULA ULIGINOSA Rydb. Common in swales of Oswego County.

C. aparinoides Pursh seems to be rare in northern, central and western New York, its place being taken by *C. uliginosa*, which is distinguished not only by its stiffer habit, narrower and more elongate

¹ House, N. Y. State Mus. Bull. nos. 243-244: 32 (1923)..

² House, N. Y. State Mus. Bull. nos. 205-206: 30 (1919)

³ Rowlee, Am. Nat. xxxi. 795 (1897)

leaves, strongly ascending mostly naked peduncles and somewhat larger and often bluish corollas; but especially by the calyx and capsule. Measurements of all the specimens in the Gray Herbarium and the herbarium of the New England Botanical Club give the following results.

C. APARINOIDES: naked portion of peduncle 0.3–3.5 cm. long; flowering calyx 1.3–3.8 mm. long, its lobes 0.7–2 mm. long; capsule 1.2–2 mm. long.

C. ULIGINOSA: naked peduncle 1–6 cm. long; flowering calyx (3) 4–6.7 mm. long, its lobes 2–4 mm. long; capsule 3.2–5 mm. long.

BIDENS DISCOIDEA (T. & G.) Britton. Characteristic of swales, inundated shores and alluvium from Oswego County to St. Lawrence County.

These stations apparently connect with those on Lake Champlain, Vermont¹ and in the Ottawa valley.²

FOMES ROSEUS (A. & S.) CKE. AND TRAMETES SUBROSEA NOM. NOVUM.

JAMES R. WEIR.

THE conflicting statements in the literature concerning the identity of *Fomes roseus* and the fungus commonly called "*Trametes carnea* Nees" have led to confusion in the minds of students and investigators engaged in the practice of forestry and in the preservation of structural timbers. This confusion is apparently due to a limited experience of the authors in studying the species in the field and superficial examination of the structure and appearance of the organism. For example, the insistence that "*T. carnea*" is an annual plant (15), that *Fomes roseus* may be distinguished by its ungulate form and stratified tubes (14), that the context color is the same in both species (15), and that one is a form or variety of the other are some of the statements published over and over again, none of which can be substantiated in fact.

It is the purpose of this paper to point out some characters which definitely establish the entity of each of the species, to furnish a

¹ Blake, RHODORA xvi. 40 (1914).

² Rivière-aux-Moustiques, near Ottawa, Ontario, Rolland, no. 8197, distributed as *B. frondosa*.

means by which they may be readily recognized in the field, and to offer a logical change in the use of names to distinguish them.

HISTORY.

In order to show that the name *Polyporus carneus*, as originally applied, has nothing to do with the American species, the rather confused history of the misreference is necessary.

In 1826, Blume and Nees von Esenbeck published a new species from Java, as follows:

"*Polyporus (Apus) carneus*—*P. suberosus*, *durus*, pileis effusis imbricatis rugosis carneis, poris minutis concoloribus. (Locus in Systemate mycologico inter *Polyporos Apodes perennes* post *P. roseum* Alb. et Schw., nostro affinem speciem.)

Descriptio.

Pilei longitudinaliter effusi, imbricati, rarius solitarii, tres vel quatuor uncias longi, unciam et sesquiunciam lati, duas vel tres lineas crassi, tuberculato-rugosi et obsolete zonati, glabri, extus intusque carnei. Pori minuti, tamen nudo oculo conspiciendi, subrotundi marginibus subacutis, concolores. Color incarnatus siccitate expallescit, humiditate contra in rubedinem transit. Substantia suberosa, dura, sicca. Contextus floccosus. Asci tenues, irregulares, filiformes, pellucidi. Sporae desiderantur.

Patria: *Iava* insula, ad truncos (*Blume*)."

Fries (12) listed and described the species under this name in 1838, referred to the original place of publication and emphasized the characters "*glabro azono carneo*." In 1874, Fries (13) confused the Javanese plant with the American species and again referred to the characters "*glabro azono carneo*." The American species is not glabrous or azonate.

Berkeley (1) in 1847 described a new species from Ceylon, as follows:

"*P. (Anodermei) rubidus*, n. sp.; roseo-gilvus; pileo tenui coriceo subreniformi sulcato-zonato inequali pulverulento sericeo; contextu concolori; poris minimis brevibus punctiformibus. Gardn. 96.

Point de Galle, Ceylon. On fallen trees in woods. Dec. 1844.

Pilei 2 inches or more broad, $1\frac{1}{2}$ inch long, laterally confluent, subreniform or subflabelliform, thin, coriaceous of a delicate rosy grey, uneven, sulcate or zoned, clothed with delicate mealy pubescence.

Substance coloured like the pileus.

Pores rosy grey, very minute, but visible to the naked eye, punctiform.

A very elegant species, resembling in colour *P. Feei* and *P. carneus*, but without any distinct cuticle.

P. carneus, too, is described as glabrous, which is not the case with the present species, which I should otherwise have been inclined to think a well developed form of the Java fungus."

Although the original material of Blume and Nees has not been examined by any mycologist of the present generation, there is no

reason to believe that Berkeley's species from Ceylon is different from the Javanese plant. Material of *Polyporus rubidus* has been examined from Ceylon, Java, the Philippines, and Australia, and it agrees with the description of *P. carneus* and appearance and color of Nees' figure. The species is entirely distinct from the American plant, in color, being a pale rose or pink, becoming whitish with age. It also differs in the shape and size of the spores, in the character of the pileus, which may be either glabrous or pubescent, according to age and in the character of its decay. The species is not known to occur on coniferous wood. The plant falls in with the much named group represented by *P. confundens* Ces., *P. modestus* Kunz., *P. brachypus* Lev., and *P. atypus* Lev. Bresadola (6, 7) refers collections from Java and the Philippines to *Polyporus carneus* Bl. et Nees and states (8) that *P. carneus* of English and American authors is *Fomes Palliseri* Berk. from British North America. He is of the belief that *Polyporus rubidus* Berk. and *P. carneus* Bl. et Nees are identical.

Berkeley (2) in 1872 refers collections from the United States to "*Polyporus (Placodermei) carneus* Fr." These collections are Rav. Fung. Car. Fasc. 5, No. 14; No. 1160, Car. Inf. Curtis 3462; New York, Sartwell. All of these collections are typical of the common American plant and have nothing to do with the Javanese species.

There are two specimens in the Kew Herbarium, both examined by the writer, labeled as follows: "*P. Palliseri* Berk. Palliser's Brit. N. Am. (Saskatchewan) Expl. Expd. Col. E. Bourgeau 1857-8, and *T. arcticus* Carleton, Brit. Amer. 1858. Berkeley did not publish these names. The two specimens are identical and typical of the Carolina material which Berkeley later referred to *Polyporus carneus* Fr.

The name "*Polyporus Palliseri* Berk. in Herb. Berk." was published by Cooke (9) in 1881. The material on which this name is based is an entirely different species, the type locality being Victoria and Queensland (see Kew Herb. Sheet no. 5520). Cooke describes the context as *carne albo*. This species which had already been described by Berkeley (3) under the name *Trametes cingulata* and *T. picta* (4) is common through Oceanica and parts of Africa and is not known to occur on coniferous wood.

Cooke (10) in 1885 under the section *contextu rhabarbarino v. ferrugineo* lists *Polyporus Palliseri* Berk. in Herb. Berk. no. 2562 of

British North America under *Fomes*, but without description, giving as a synonym *Trametes arcticus* Berk. no. 3044. It is not unlikely that Berkeley also had unpublished material from Australia under the name of *Polyporus Palliseri* which Cooke used for his Australian species, consequently the above is the first time Berkeley's herbarium names, properly identified as to material, were published. No description accompanied the publication of the names and they may, therefore, be disregarded.

Cooke (11) apparently seeing his error in his first use of the name *P. Palliseri*, either being ignorant of or wilfully disregarding Berkeley's older name (*T. cingulata*), republished the Australian species in 1886 under the name "*Polyporus argentatus*" (= "*P. Palliseri* non Berk.") with exactly the same description as he had previously employed for *P. Palliseri*.

Saccardo, under *Fomes Palliseri* Berk., copied Cooke's original description, word for word, and uses exactly the same description for *Polyporus argentatus* Cke.

Bresadola (8) has adopted the name *Polyporus (Fomes) Palliseri* Berk. to represent the American and North European species referred by authors to "*P. carneus* Nees." This seems objectionable. The confusion over the name, although *P. Palliseri* of Cooke is a synonym of *T. cingulata* Berk., and the fact that it is desirable to refer both the Australian and American species to *Trametes*, makes it seem more desirable to disregard Berkeley's herbarium name.

Trametes arcticus Berk. in herb., though based on an authentic specimen and of the same species and possibly of the same collection, would be confused with *Polyporus arcticus* Fr. (Épicr. 479). Although the latter species is a *Polystictus*, as compiled by Saccardo, and may not be distinct from the darker-pored form of *Polystictus zonatus* Fr., there is still opportunity for confusion. Lloyd suggested (Letter 39, note 25) that the plant on which Berkeley based his name *Polyporus rubidus* (Ceylon) be accepted in the sense of *Polyporus carneus* Bl. et Nees of Java. He later proposes calling the American plant *Polyporus carneus* and the Javanese plant *Polyporus rubidus* as a way out of the difficulty. Such inconsistent juggling, however, gets nowhere, and nothing constructive is offered. The fact remains as Lloyd has pointed out that one of the most common polypores in America has not been regularly named and described. Therefore, the name ***Trametes subrosea* nom. nov.** is proposed.

CLASSIFICATION.

The history of *Fomes roseus* has not been so much in dispute. As far as the writer has been able to determine, the original collection does not exist. The location of the herbarium of Albertini and Schweinitz appears to be unknown. *Fomes roseus* occurs frequently in Europe and is typical in spore and other characters of the plant in America. *Trametes subrosea* is rare in Europe and on that account the question as to which species Albertini and Schweinitz originally had before them cannot logically be raised. Both may become thick, ungulate and stratified or they may be thin and applanate. The species are quite distinct, however. Ready means of distinction in the field are the darker-colored context, and the conspicuous narrow zonate and radiate fibrillose surface of the pileus of *Trametes subrosea*. The context may become reddish brown to brown in very old specimens. The context of the original American specimen in Berkeley's herbarium is almost brown, so that Cooke was practically correct in listing it under "rhabarbarino-ferrugineo." The zonate condition of the pileus is often obscured by a revival of growth during very wet weather so that it often appears soft and smooth. The pores have a tendency to become discolored with age especially when the substratum is about exhausted. Such specimens are often thin and applanate and may lead to the conception that the plant is annual. The pores may be conspicuously stratified in old specimens. Frequently the plant is ungulate. The rather narrow ellipsoid to cylindrical hyaline spore has a constant tendency to be allantoid and quite regularly so in occasional specimens. This condition very readily distinguishes the species from *Fomes roseus*, the spores of which never tend to become allantoid, average broader and are frequently acuminate at one end. In contrast to the normally fibrillose zonate pileus of *Trametes subrosea*, that of *Fomes roseus* is normally smooth without markings, frequently conspicuously sulcate, and may be rimose in very old specimens. The context is constantly of a lighter color in normally developed specimens. The older pores are usually filled with a whitish deposit and are more styptic. The pores may be stratified or not, depending upon the age of the specimen. In America, *Fomes roseus*, as far as known, is confined to coniferous wood. *Trametes subrosea* occurs on both hard woods and conifers and is more

destructive to the heart and sapwood of both living and dead trees than is the case with the less common *Fomes roseus*. The decay caused by both species usually occurs locally at first in large indistinct pockets which later unite with other pockets. The wood within the pockets breaks up into more or less distinct brown or dark brown rectangular blocks. The decay of *T. subrosea* is usually of a darker color and may become somewhat fibrous in some woods.

Trametes subrosea may be confused with *T. Feei* Fr. (*T. Sagreeana* (Mont.) Fr.), a common tropical plant originally described from Brazil. The latter has been found in southern Florida, where the former also occurs. The species are distinct on several counts, both as to pileus and spore characters and relation to substrata. There is also slight difference in the character of their decays.

The main distinguishing characters of the above three species may be summarized as follows:

Context shades of pink or rose color.

Context Japan rose to cacao brown or brownish vinaceous (Ridgway).

Pileus usually thin but sometimes conspicuously stratified when old, normally zonate with radiating appressed fibrils when not obscured with new hyphal growth, brown, brownish pink, silvery gray or black with age; *pores* dark pink to dark rose, small, discolored with age; *spores* narrowly elongate, ellipsoid to cylindric or allantoid, hyaline, gutta not observed, average $6.3 \times 2-3 \mu$; on wood of deciduous and coniferous trees in Europe and America.....*Trametes subrosea*.

Pileus thin, smooth, even, velvety, pinkish-brown to black when old; *pores* pink rose, or brownish vinaceous, black with age, minute, smaller than above; *spores* ellipsoid, rarely short cylindric, frequently acuminate at one end, average $6.4 \times 3.1 \mu$; on hard woods in the tropics, in the United States only in southern Florida.. *Trametes Feei*.

Context pale vinaceous pink (Ridgway) constantly of a lighter color than above.

Pileus thick, distinctly stratified in split section when old, smooth, frequently conspicuously sulcate, pink, brownish-pink, brown to black with age, sometimes rimose or with a slight resinous crust when very old; *pores* light pink or light rose, somewhat brownish with age or when bruised; *spores* broadly elongate, ellipsoid to cylindric never allantoid, hyaline, guttulate, average $8-10 \times 2.5-4 \mu$; found only on coniferous wood in Europe and America.....*Fomes roseus*.

CITATIONS

1. Berkeley, M. J. Decades of Fungi XV-XIX, Ceylon Fungi. Lond. Jour. Bot. 6: 500-501. 1847.

2. **Berkeley, M. J.** Notices of North American Fungi. Grev. **1**: 51. 1872.
3. **Berkeley, M. J.** Decades of Fungi No. 441. Jour. Bot. **6**: 164-165. 1854.
4. **Berkeley, M. J.** and **Broome, C. E.** List of Fungi from Brisbane, Queensland, Pt. II, Trans. Linn. Soc. 2d Ser., **2**: 61. 1882.
5. **Blume, Carl Ludwig von** and **Nees von Esenbeck, Theo. Fried.** Fungi javanici. Nova Acta Acad. Leop.-Carol. **13**: 14. pl. 3, fig. 1-3. 1826.
6. **Bresadola, G.** Polyporaceae Javanicae. Ann. Myc. **10**: 496. 1912.
7. **Bresadola, G.** Basidiomycetes Philippinenses I. Hedw. **51**: 311. 1911.
8. **Bresadola, G.** Synonymia et adnotanda Mycologica. Ann. Myc. **14**: 237. 1916.
9. **Cooke, M. C.** Australian Fungi, Grev. **10**: 98. 1881.
10. **Cooke, M. C.** Praecursores ad Monographia Polyporum. Grev. **14**: 21. 1885.
11. **Cooke, M. C.** Praecursores ad Monographia Polyporum. Grev. **15**: 20. 1886.
12. **Fries, E. M.** Epicr. Syst. Myc. 471. 1838.
13. **Fries, E. M.** Hymen. Eur. 563. 1874.
14. **Lloyd, C. G.** Synopsis Genus Fomes. 223-224. 1915.
15. **Overholts, L. O.** The Polyporaceae of the Middle Western United States. Wash. Univ. Studies **3**: 59, 68. 1915.

OFFICE OF INVESTIGATIONS IN FOREST PATHOLOGY,
Bureau of Plant Industry, Washington, D. C.

BUTOMUS UMBELLATUS ON THE ST. LAWRENCE RIVER.

CLARENCE H. KNOWLTON.

WHILE collecting plants along the St. Lawrence River at Ste. Angèle de Laval, opposite Three Rivers Quebec, the last day of July, Mr. Edward B. Chamberlain and I were much surprised to find in the swampy land near the shore a striking endogenous plant that neither of us had seen nor heard of before. Good specimens were a meter tall, with an umbel of large pink flowers, veined with darker red. At the base was a short horizontal rootstock with a large cluster of ensiform leaves.

We soon discovered that the plant did not fit the ordinary key to the endogens, for the flower had three colored sepals, three larger petals, *nine* stamens, and six *separate* carpels.

Later investigation at the Gray Herbarium showed us that this handsome plant was *Butomus umbellatus* L. of the small family

Butomaceae, closely related to the *Alismaceae*, but distinct because of its nine stamens, six separate carpels, and the lack of placentae, as the ovules are borne all over the interior walls of the carpels. It is a marsh plant widely distributed in Europe and western Asia, commonly known as the flowering rush.

This species was first found on the St. Lawrence by Brothers Marie-Victorin and Rolland-Germain in 1905, at Laprairie on the flats (battures) of the river. It was soon after discovered at Beauharnois, Chateaugay, Valois and Longueuil, and was first reported in *Le Naturaliste Canadien* of May, 1908, and *The Ottawa Naturalist* of July, 1908. An independent appearance of the plant along the canal at Ottawa as early as 1906 was reported by E. H. Blackader in *The Ottawa Naturalist* of December, 1908.

By 1918 the plant had spread so fast that Brother Marie-Victorin wrote as follows:¹ "One of the latest floral acquisitions—a desirable one—made on the shores of the St. Lawrence, is the flowering rush, the umbellate *Butomus*, a very pretty plant which covers broad flats at least from Chateaugay to Nicolet, and which is especially abundant about Montreal. This beautiful Alismaceous species spreads rapidly, as is shown by its conquest of this large domain in less than forty years. It has not been reported elsewhere in America."

In our own travels the past summer we found *Butomus* at Ste. Angèle de Laval, Pointe du Lac, Berthierville, St. Sulpice and St. Lambert. In the Gray Herbarium is a specimen from the wet stony beach at Lachine, collected in 1922 by Judge J. R. Churchill, and another from the "zone intercotidale de la grève de Beauport" (near Quebec) collected by Brother Rolland in 1922. The flowering rush is evidently spreading rapidly down river. As it has many seeds, it would seem quite possible for it to work gradually up the St. Lawrence and its tributaries, so that some day it may make its appearance by Lake Ontario or Lake Champlain, within the limits of the United States.

A good description of the genus and species can be found in the *North American Flora*, Vol. 17, pt. 1. 63, 1909.

HINGHAM, MASSACHUSETTS.

¹ *Revue Trimestrielle Canadienne*, 263, November, 1918.

ERRATA

- Page 12, line 12, *for off read of.*
“ 13, “ 7, *for leads read lead.*
“ 18, “ 16, *for Peteers read Peters.*
“ 40, lines 5 & 7, *for M. read N.*
“ 47, “ 35 & 36, *the foot notes following the figures should be transposed.*
“ 53, line 23, *for Baumia read Baumea.*
“ 99, “ 7, *for VIRGIANUM read VIRGINIANUM.*
“ 107, “ 12, *for specia linterest read special interest.*
“ 113, “ 33, *for Vahl. read Willd.*
“ 113, “ 33, *for ARCTILOBA read ARCTOBIA.*
“ 168, “ 31, *for not read now.*

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